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Nebraska Summary: S1061A Massey Ferguson 7716S

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SUMMARY OF OECD TEST 2992-NEBRASKA SUMMARY 1061A

MASSEY FERGUSON 7716 DYNA 6 DIESEL

ALSO MASSEY FERGUSON 7716S DYNA 6 DIESEL

24 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	D.E.F. Consumption Gal/hr (l/h)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed)—1034 rpm)						
141.1 (105.2)	2099	8.11 (30.69)	0.401 (0.244)	17.40 (3.43)	0.53 (2.01)	
Standard Power Take-off Speed (999 rpm)						
149.4 (111.4)	2028	8.36 (31.66)	0.391 (0.238)	17.87 (3.52)	0.57 (2.17)	
Maximum Power (1 hour)						
150.2 (112.0)	1900	8.15 (30.87)	0.379 (0.231)	18.43 (3.63)	0.58 (2.19)	

VARYING POWER AND FUEL CONSUMPTION

141.1 (105.2)	2099	8.11 (30.69)	0.401 (0.244)	17.40 (3.43)	0.53 (2.01)	Air temperature
121.1 (90.3)	2115	7.14 (27.02)	0.412 (0.250)	16.96 (3.34)	0.50 (1.89)	72°F (22°C)
91.2 (68.0)	2124	5.75 (21.75)	0.441 (0.268)	15.86 (3.12)	0.39 (1.49)	Relative humidity
61.0 (45.5)	2134	4.40 (16.64)	0.504 (0.306)	13.87 (2.73)	0.29 (1.10)	47%
30.7 (22.9)	2145	3.05 (11.53)	0.694 (0.422)	10.07 (1.98)	0.20 (0.76)	Barometer
--	2151	2.09 (7.90)	--	--	0.05 (0.19)	30.2" Hg (102.1 kPa)

Maximum torque - 479 lb.-ft. (650 Nm) at 1402 rpm
 Maximum torque rise - 35.8%
 Torque rise at 1700 engine rpm - 26%
 Power increase at 1900 engine rpm - 6.4%

DRAWBAR PERFORMANCE

(Unballasted - Front Drive Engaged)

FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- mg med	Air dry bulb	Barom. inch Hg (kPa)
Power at Rated Engine Speed—12th(3A) Gear									
112.8 (84.1)	8315 (37.0)	5.08 (8.18)	2095	4.8	0.500 (0.304)	13.87 (2.73)	194 (90)	73 (23)	29.9 (101.4)
75% of Pull at Rated Engine Speed—12th(3A) Gear									
86.9 (64.8)	6250 (27.8)	5.21 (8.39)	2124	3.7	0.524 (0.319)	13.25 (2.61)	194 (90)	73 (23)	29.9 (101.4)
50% of Pull at Rated Engine Speed—12th(3A) Gear									
59.3 (44.2)	4180 (18.6)	5.32 (8.55)	2130	2.4	0.613 (0.373)	11.32 (2.23)	194 (90)	73 (23)	29.9 (101.4)
75% of Pull at Reduced Engine Speed—14th(3B) Gear									
86.1 (64.2)	6205 (27.6)	5.20 (8.37)	1770	3.8	0.505 (0.307)	13.76 (2.71)	199 (93)	73 (23)	29.9 (101.4)
50% of Pull at Reduced Engine Speed—14th(3B) Gear									
59.3 (44.2)	4180 (18.6)	5.32 (8.55)	1777	2.4	0.554 (0.337)	12.54 (2.47)	198 (92)	73 (23)	29.9 (101.4)

Location of tests: IRSTE, Centre d'Antony, 1 rue Pierre-Gilles de Gennes CS 10030 Antony, 92163, Cedex, France

Dates of tests: May to August, 2016

Manufacturer: AGCO S.A.S 41, Avenue Blaise Pascal, 60000 Beauvais, France

CONSUMABLE FLUIDS: Fuel No. 2 Diesel
 Specific gravity converted to 60°/60°F (15°/15°C)
 0.839 Fuel weight 6.98 lbs/gal (0.837 kg/l) Diesel
 Exhaust Fluid (DEF) 32% aqueous urea solution
 DEF weight 9.10 lbs/gal (1.091 kg/l) Oil SAE
 15W40 API service classification CJ-4
 Transmission and hydraulic lubricant BP Terrac
 Tractan 9 15W/40 Front axle lubricant BP Terrac
 Tractan 9 15W/40

ENGINE: Make AGCO Power Diesel Type six cylinder vertical with turbocharger, air to air intercooler and SCR (selective catalyst reduction) exhaust treatment Serial No. Z00099 Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 4.252" x 4.724" (108.0 mm x 120.0 mm) Compression ratio 17.4 to 1 Displacement 402 cu in (6596 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements Oil filter one full flow cartridge Oil cooler engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil Fuel filter three paper cartridges Muffler vertical Cooling medium temperature control thermostat and variable speed fan

CHASSIS: Type front wheel assist Serial No. B 007901 Tread width rear 52.8" (1340 mm) to 87.8" (2230 mm) front 52.8" (1340 mm) to 87.8" (2230 mm) Wheelbase 113.2" (2875 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial (6) range operator controlled powershift Nominal travel speeds mph (km/h) first 0.96 (1.55) second 1.16 (1.86) third 1.35 (2.18) fourth 1.63 (2.63) fifth 1.92 (3.09) sixth 2.31 (3.72) seventh 2.60 (4.19) eighth 3.13 (5.03) ninth 3.67 (5.91) tenth 4.42 (7.11) eleventh 5.19 (8.36) twelfth 5.28 (8.50) thirteenth 6.25 (10.06) fourteenth 6.35 (10.22) fifteenth 7.46 (12.00) sixteenth 8.97 (14.44) seventeenth 10.55 (16.98) eighteenth 12.69 (20.43) nineteenth 14.00 (22.53) twentieth 16.83 (27.09) twenty-first 19.75 (31.79) twenty-second 23.77 (38.26) twenty-third 24.86 (40.00) twenty-fourth 24.86 (40.00) electronically limited reverse 0.96 (1.55), 1.16 (1.86), 1.35 (2.18), 1.63 (2.63), 1.92 (3.09), 2.31 (3.72), 2.60 (4.19), 3.13 (5.03), 3.67 (5.91), 4.42 (7.11), 5.19 (8.36), 5.28 (8.50), 6.25 (10.06), 6.35 (10.22), 7.46 (12.00), 8.97 (14.44) 10.55 (16.98), 12.69 (20.43), 14.00 (22.53), 16.83 (27.09), 19.75 (31.79), 23.77 (38.26), 24.86 (40.00), 24.86 (40.00) electronically limited

DRAWBAR PERFORMANCE AT 1900 ENGINE RPM

(Unballasted - Front Drive Engaged) MAXIMUM POWER IN SELECTED GEARS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- mg med	Air dry bulb	Barom. inch Hg (kPa)
6th(1F) Gear									
75.0 (55.9)	13625 (60.6)	2.06 (3.32)	2120	12.8	0.631 (0.384)	11.00 (2.17)	196 (91)	66 (19)	29.9 (101.4)
7th(2A) Gear									
83.8 (62.5)	13600 (60.5)	2.31 (3.72)	2110	12.5	0.572 (0.348)	12.13 (2.39)	196 (91)	66 (19)	29.9 (101.4)
8th(2B) Gear									
99.5 (74.2)	13535 (60.2)	2.76 (4.44)	2090	12.4	0.533 (0.324)	13.02 (2.56)	196 (91)	66 (19)	29.9 (101.4)
9th(2C) Gear									
105.3 (78.5)	12815 (57.0)	3.08 (4.96)	1928	9.9	0.526 (0.320)	13.20 (2.60)	196 (91)	66 (19)	29.9 (101.4)
*10th(2D) Gear									
112.4 (83.8)	11085 (49.3)	3.80 (6.12)	1909	7.2	0.501 (0.305)	13.86 (2.73)	196 (91)	66 (19)	29.9 (101.4)
*11th(2E) Gear									
123.0 (91.7)	10340 (46.0)	4.46 (7.18)	1905	6.5	0.460 (0.280)	15.08 (2.97)	183 (84)	70 (21)	30.0 (101.5)
*12th(3A) Gear									
125.0 (93.2)	10275 (45.7)	4.56 (7.34)	1910	6.3	0.456 (0.277)	15.23 (3.00)	194 (90)	73 (23)	29.9 (101.4)
*13th(2F) Gear									
123.0 (91.7)	8455 (37.6)	5.46 (8.78)	1910	5.1	0.460 (0.280)	15.08 (2.97)	192 (89)	72 (22)	30.0 (101.5)
*14th(3B) Gear									
125.1 (93.3)	8295 (36.9)	5.66 (9.10)	1910	3.9	0.448 (0.272)	15.50 (3.05)	196 (91)	73 (23)	29.9 (101.4)
*15th(3C) Gear									
124.2 (92.6)	7060 (31.4)	6.60 (10.62)	1898	2.7	0.467 (0.284)	14.87 (2.93)	196 (91)	73 (23)	29.9 (101.4)
*16th(3D) Gear									
120.0 (89.5)	5640 (25.1)	7.98 (12.84)	1904	2.2	0.472 (0.287)	14.72 (2.90)	190 (88)	70 (21)	30.0 (101.5)
*17th(3E) Gear									
115.5 (86.1)	4540 (20.2)	9.54 (15.35)	1910	1.7	0.487 (0.297)	14.24 (2.81)	196 (91)	70 (21)	30.0 (101.5)

* Powerboost mode

Clutch multiple wet disc operated by foot pedal
Brakes multiple wet disc hydraulically operated by two foot pedals that can be locked together
Steering hydrostatic **Power take-off** 540 rpm at 1982 engine rpm or 1000 rpm at 2030 engine rpm
Unladen tractor mass 15200 lb (6895 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE 1: This tractor has a power management system that provides an engine power increase when the PTO is engaged and for travel speeds from gear 2D and higher.

NOTE 2: The performance figures on this report are the result of replacing the electronic engine control module of the Massey Ferguson 7718 Dyna 6 with the Massey Ferguson 7716 Dyna 6 module.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor fell 13.1% short of meeting the manufacturer's remote hydraulic flow claim of 29 GPM (110 l/min) (multiple outlets), 4.2% short of the 26.4 GPM (100 l/min) (single outlet), and 3.0% short of the 3 point lift claim of 8900 lbs (4035 kg). The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

REPORT REISSUED: Supplemental sales permit for Massey Ferguson 7716S Dyna 6 Diesel, November, 2018.

We, the undersigned, certify that this is a true summary of data from OECD Report No. 2992, Nebraska Summary 1061A, November 29, 2018.

Roger M. Hoy
 Director

M.F. Kocher
 J.D. Luck
 P.J. Jasa
 Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive	
	Engaged dB(A)	Disengaged dB(A)
At no load in 10th (2D) gear	69.0	69.0
Bystander		--

Horizontal distance of drawbar hitch point behind rear wheel axis - 28.5 in (725 mm), 34.4 in (875 mm)

TIRES, BALLAST AND WEIGHT

Rear Tires - No., size, ply & psi(kPa)
Front Tires - No., size, ply & psi(kPa)
Height of Drawbar
Static Weight with operator - Rear
 - Front
 - Total

Tested without ballast

Two 520/85R38; **; 13(90)
 Two 480/70R28; **; 15(100)
 21.7 in (550 mm)
 8245 lb (3740 kg)
 7120 lb (3230 kg)
 15365 lb (6970 kg)

HYDRAULIC PERFORMANCE

CATEGORY: III

Quick Attach: None

OECD Statistest

Maximum force exerted through whole range: 8630 lbs (38.4 kN)

i) Sustained pressure of the open relief valve: 2875 psi (198 bar)
two outlet sets combined

ii) Pump delivery rate at minimum pressure: 25.2 GPM (95.5 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 23.8 GPM (90.0 l/min)

Delivery pressure: 2380 psi (164 bar)

Power: 33.0 IIP (24.6 kW)

single outlet set

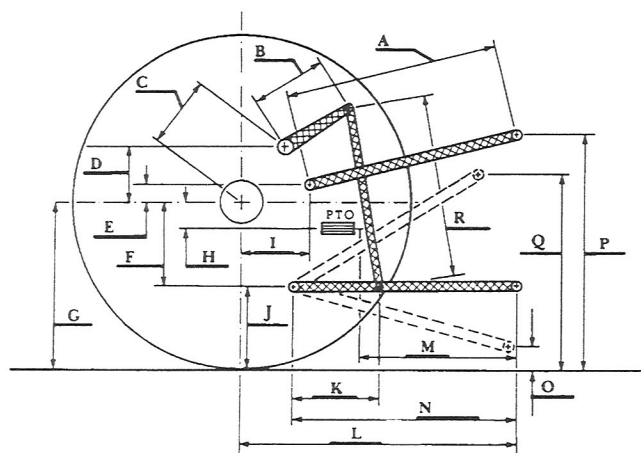
ii) Pump delivery rate at minimum pressure: 25.3 GPM (95.6 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 23.9 GPM (90.5 l/min)

Delivery pressure: 2160 psi (149 bar)

Power: 30.1 IIP (22.5 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	28.7	730
B	11.6	295
C	13.9	354
D	13.0	330
E	9.9	251
F	11.0	280
G	34.4	875
H	1.7	43
I	15.5	394
J	23.4	595
K	21.4	543
L	43.3	1101
M	24.6	625
N	37.0	940
O	8.9	226
P	50.4	1280
Q	36.9	938
R	30.3	770

RECOMMENDED CITATION FORMAT:

NTTL.(2018). OECD tractor test 2992 for Massey Ferguson 7716S Dyna 6 Diesel.

Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>